

## Electric System Is "Ground Work" Of Troubles

Learn to Know Your Ignition Thoroughly and Save Many a Tie-Up; "Short" and "Misses" Are Traced

By William H. Stewart, jr., President Stewart Automobile School.

Many times I have been asked to look over a friend's car, to find that the trouble was one of the simplest. The average driver knows nothing about electricity as applied to the automobile and so is unable to tell when the ignition system is functioning properly. He is afraid to experiment, and believes in letting things alone until something happens.

He then looks over the system for the first time, and, of course, does not know whether the wiring is right or not. Yet I have repeatedly pointed out cases of worn insulation among other troubles about which the operator seemed entirely lost. In one case the spark was jumping freely from a distributor wire to a piece of metal near by and he pointed to it as evidence that he had a good spark—evidently accepting it as a matter of course that the spark should jump where it did.

Even if the operator understands nothing of the nature of his ignition system he should at least familiarize himself with the positions of the various wires, their colors, and general condition. Here the instruction book will be a great help. If any wire becomes displaced it will then be readily noticed. Watch particularly for cases where one wire chafes against another or some piece of metal.

Such places should be protected with electric tape or at least covered so that no short-circuit may occur. But the high tension or secondary wires may develop a short-circuit where least expected, so that it would be well to go over them occasionally to see that no leakage takes place. This is particularly true in rainy weather. The moisture is drawn in by the fan and is scattered around under the hood.

Wires which did not leak current before will short-circuit in a wet spell. The best method is to run the engine and to trace along each wire, lifting it away from any place it may touch, to see or feel if the current enters the insulation through the insulation. Where a leak is noted the place must be taped.

A more puzzling problem arises when all the wires from the distributor pass through a metal tube. There is always the possibility of a short from the wires to the tube, as the tube is always grounded. Proceed as follows: First find out if the current enters the suspected wire. To do this, disconnect the wire at the distributor end and hold it near its contact to see if spark jumps. If of course, if no spark is seen the trouble is not in the wire, but in the distributor. If a good spark occurs at the distributor, but none at the other end of the wire, there is a short in between. The wire must be pulled out and a good one substituted, or the old one made serviceable again.

On some systems it will be found impossible to remove the defective wire, so it is necessary to substitute a good one between the same points, running it along the outside of the tube and securing it by means of tape. This does not look so well, but it restores ignition to a missing cylinder, with all that means, for when an engine misses explosions it loses power, flattens the bearings and hurries its progress to the scrap heap.

## Diamonds Used in Nash Factory Work

Fifty thousand dollars' worth of black diamonds are used each year in the production of Nash passenger cars and trucks. Instead of its more familiar background of gold and platinum, the diamond as seen in the factory is "set" in a small socket at the end of a short and unromantic steel bar. Both diamond and "setting" are covered with grease and grime and in this unsightly but practically perfect "job" assigned to the king of gems is the more or less prosaic though vitally important duty of regrounding the surfaces of emery wheels.

It is the emery wheel that is depended upon for the high degree of accuracy demanded in the Nash factory for the bearing surfaces of the crank shaft, the cam shaft and for pistons, transmission sleeves and similar parts.



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ENLIST IN THE N. J. C.

## Hitting on All Twelve

by C.E.T. Scharps

IN ALL the discussion about examination and licensing motorists, in connection with the Knight-Wheelock law, one point apparently is lost sight of. That is this: If the state, after examination, decides that a person is qualified to operate a motor car, does not that in some sort make the state responsible for the actions of that person when he is operating his car? Having been certified by the authorities as a careful and prudent operator, does not some of the responsibility rest with the state if he causes an accident? And, furthermore, is he so readily liable to prosecution for offenses after such a clean bill of health has been given him? Doctors, for instance, are licensed by the state to practice, and unless they are actually guilty of malpractice are not held responsible for certain small matters, as they might be if the state had not certified to their fitness.

On the same lines, why would it not be a proper defence for a chauffeur right now, if accused of reckless driving, to say that he cannot be held reckless, because the licensing authorities have certified to his general reliability by issuing to him a license to drive? If the state is to undertake to prove the fitness of all operators of motor cars—in greater New York only—it also should have to share the responsibility for putting these persons on the road behind the wheel of a motor car.

It is easy to see why it is hard to pass a law that calls for all operators of motor cars to be licensed. Can you imagine a farmer in a small community agreeing to come to a town near by—or, perhaps, not so near at hand—to go through an examination to prove he is capable of managing his car? It just can't be imagined, and that is why the up-state legislators killed the idea of having all operators of automobiles licensed.

Frankly, it is my opinion that the bill was framed with no other idea than to add to the already very great powers of magistrates. They are the last word as it is right now, but they seem to feel they must have even greater authority. What they will do when they get the enormous powers the law incorporates the average motorist must shudder to think of. As matters stand, the mere presence of a motorist in court these days is prima facie evidence of guilt. "If he hadn't a been doin' of somethin' 'e wouldn't be 'ere. So I bring 'em all in guilty." You know the old story. There are awful days ahead for those who visit the "Cobb House."

## Where Is the Economy?

IT WILL take a very elaborate system of machinery in the Secretary of State's office to handle the licensing systems in real earnest. To give examinations to all the motorists of greater New York, and to have inspectors out on the road looking for unlicensed operators, and appointing extra clerks, etc., to keep the records will make the sum total of all the extra dollars that the law provides New York City motorists must pay look sick. Say, for instance, that 100,000 motorists had to pay \$2 apiece, instead of \$1 as now. The expense of the department, amplified to take care of the examination and licensing system, will make the extra \$100,000 in a year look puny. The \$90,000 that was taken away from New York City motorists last year probably was pretty well eaten up in the expenses of the office.

What is the sense of passing one automobile bill to make more revenue for the state and then at once putting into operation a costly and unfair system, affecting New York City only, that will spend unnecessarily a whole lot of the money that is supposed to be raised for urgent needs of the state?

that must be smoothed so that the surface will not vary as much as a one-thousandth part of an inch. In the plant are scores of wheels used for this purpose and each is manned by a highly skilled operator.

After each operation of the emery wheel the diamond is brought into play. Pressed against the spinning

wheel the diamond is made to grind its surface so that subsequent operations of the wheel on surfaces of steel parts will produce accurate results.

The diamonds used for this purpose by the Nash Motors Company vary from three-quarters of a carat to eight carats in size.

One of the most striking cars of the new era, which may be fairly called a post-war car is the Moon Victory model, which has just made its appearance at the salesrooms of the Moon Motor Car Company, of New York, of which William J. Coghlan is president. In specifications, in lines and in finish this car is a vast step ahead of anything that the Moon Company has heretofore produced. It represents the climax of fourteen years' experience in the designing of high quality automobiles and also the results of careful and deliberate planning, while the war was yet on to be ready to produce something when hostilities ceased that might fairly be called a post-war car.

Every line of the new Moon Victory model bespeaks power and individuality of the custom-made car. The factory at St. Louis, on account of its new enormous buildings and the tremendous work which it successfully performed for the government, is now producing vastly more automobiles than was ever possible in preceding years. Whatever changes or modifications from previous specifications of the Moon car are observable are distinctly in the line of improvements. The effort has been successfully made to incorporate into the car the best and the most improved units that could be selected, and in view of this high engineering standard the price at which the car is sold—\$1,685, is remarkably low.

From the smart Rolls-Royce type nickel-plated radiator to the close-fitting, space-saving top, everything about the car is high grade and in the best of taste. The high sided, comfortable body had a snap to its appearance that gives the suggestion of vigor and willingness to perform.

The specifications are worth giving in detail. They are: Motor—Continental Red Seal; six cylinders 34x42 inches, cast on bloc; 46-horsepower; enclosed lubrication pump and constant level splash.

Radiator—Fenders, honeycomb, nickel silver, with water pump circulation. Starter and Ignition—Delco system; two-unit battery.

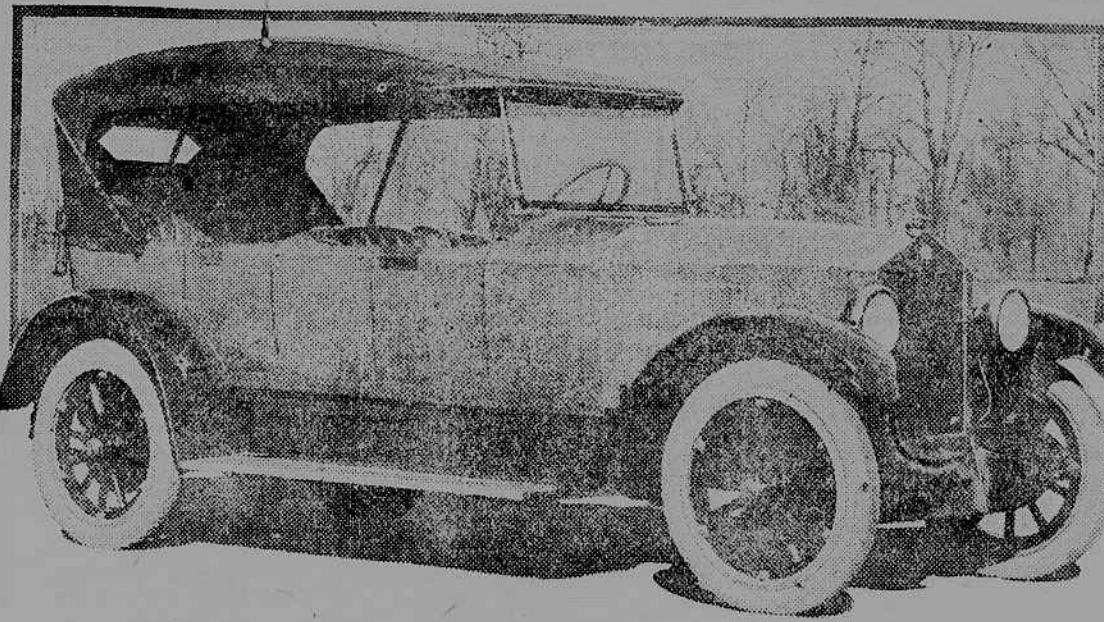
Carburetor—Rayfield.

Clutch—Dry plate disk, adjustable.

Transmission—Rigid construction with motor and clutch, selective sliding gear; three speeds forward and reverse.

Steering Gear—Gleimner, worm and gear.

## New Victory Moon Rises to View



18-inch steering wheel with corrugated rim. Front Axle—Timken I-beam, drop forged, special heat treated. Rear Axle—Timken pressed steel, spiral gears. Propeller Shaft—Tubular, with two Spicer universal joints. Springs—Front, semi-elliptic, 33 inches. Rear, semi-elliptic, 34 inches. Brakes—Internal and external, 14-inch drums. Frame—Pressed steel, especially designed for Hotchkiss drive, with deep tread line on rear wheels. Rear tire carrier integral with frame.

Wheels—14 inches. Battery—standard Exide, six volts. Tires—4-inch demountable rims. Rugged tread line on rear wheels. Upholstery—Genuine tan Spanish leather, plaited type. Windshield—Two-piece, both halves ventilating.

Top—One-man, California style top of "Never-Leak" material. Beveled plate glass lights. Curtains carried in pockets of top.

Equipment—Tool kit, jack, tire pump, trouble light, ammeter, lighting and ignition switches with patented lock; robe straps, storm curtains that open with doors; motor driven horn.

Body—Designed with high radiator, full bevel, straight line instrument panel, front and rear solid walnut; wide doors with concealed hinges; comfortable driver's position with spacious leg room; clear running boards with deep one-piece crown fenders.

Price—\$1,685 f. o. b. St. Louis.

Because of the large facilities of the factory at St. Louis, Mr. Coghlan announces that prompt deliveries can be made. At a season like this, when anything like an early delivery is a practical impossibility with most cars, this is an added attraction for the person who is in the market for a high grade six-cylinder automobile of the very latest type and appearance.

## Stowe Reports Big

### Demand for Mitchell

"The success of the new Mitchell Victory model in connection with its low price and economy of operation has been little short of phenomenal," said George Stowe, president of the Mitchell Motor Car Company, of New York, "and we find it almost impossible to get enough cars from the Racine factory to meet the demands. The trouble in getting cars is due to the fact that the Mitchell factory had large orders

for trucks for the government, and they, of course, came first until the armistice was signed.

"I have just received word from the factory that increased shipments are on the way and that soon we will have a limited supply of cars of all models to meet the immediate requirements of our customers."

## McClurg Is Factory

### Manager for Carlisle

The appointment of A. G. McClurg as factory manager of the Carlisle Cord Tire Company is announced. Mr. McClurg was formerly with the Firestone and Republic, and his experience dates back almost to the time when pneumatic tires were first conceived. He studied abroad for two years and built tires in Europe as early as 1899.

He has been with the Carlisle Cord Tire Company several months in a consulting capacity. At present Mr. McClurg is overseeing the construction of the Carlisle plant being built in Stamford, Conn.

Mr. McClurg and J. M. Gilbert, chairman of the board of the Carlisle Cord Tire Company, are old friends and were business associates twenty years ago.

## Adapting Bodies to

### Many Business Uses

"Just what can be considered a suitable commercial vehicle to fit the average business man's needs has been a problem of the truck manufacturers for many years," says James J. Hunt, general manager of the Reo Motor Car Company of New York, Inc. "Some time ago we made an investigation to ascertain why fully 50 per cent of the purchasers of the Reo speed wagon bought stripped chassis instead of the complete truck with body."

"While making this survey we stumbled onto another important bit of information, namely, that frequently sales were lost because the standard Reo body—we made only one, the express with the canopy top—was not quite adaptable to the buyer's needs.

## Forty-three Racing Cars Nominated For the Liberty Sweepstakes

The complete list of cars and drivers for the 500-mile race at Indianapolis, on May 31, is as follows:

Driver	Car	Driver	Car
1. Cliff Durant	Chevrolet Special	23. Arthur Thurman	Thurman Special
2. Ralph Mulford	Frontenac	24. Wilbur D'Alene	Duesenberg
3. Jean Chassagne	Sunbeam	25. E. L. Shannon	Mesaba Special
4. Dario Resta	Sunbeam	26. Tom Alley	Bender Special
5. W. W. Brown	Richards Special	27. Roscoe Scales	Oldfield Special
6. Jules Goux	Peugeot	28. Arthur Klein	Peugeot
7. Louis Chevrolet	Frontenac	29. Andre Boillot	Baby Peugeot
8. Gaston Chevrolet	Frontenac	30. Not named	Peugeot
9. Joseph Boyer, Jr.	Frontenac	31. Rene Thomas	Ballot
10. Earl Cooper	Stutz	32. Albert Guyot	Ballot
11. Tom Milton	Duesenberg	33. Jules Bablot	Ballot
12. Eddie O'Donnell	Duesenberg	34. Louis Wagner	Ballot
13. Dave Lewis	Duesenberg	35. A. E. Cotey	Ogren Special
14. Kurt Hicke	Roamer	36. J. J. McCoy	McCoy Special
15. Eddie Hearne	Durant Special	37. Omar Toft	Darco Special
16. Louis LeCocq	Roamer	38. P. W. Monahan	Jay-Bee Special
17. Ralph DePalmer	Packard	39. Not named	Detroit Special
18. Eddie Pullen	Hudson Special	40. Not named	Premier
19. H. C. Simmons	Hudson Special	41. Not named	Premier
20. Ira Vail	Hudson Special	42. Ray Howard	Peugeot
21. Denny Hickey	Hudson Special	43. J. M. Reynolds	Hudson Special
22. Not named	Hudson Special		

And our dealers were unanimous in the opinion that in most cases the prospect was as disappointed as was the salesman.

"So the Reo engineers concentrated their minds on a body that should be readily adaptable to many different lines of business—for city, suburban and farm use. This new Reo body was developed along different lines. No attempt was made to render the same attachment convertible to many forms. Instead, a different attachment was made for each special use—to meet the needs of users in many branches of commercial, industrial and agricultural hauling."

## Jordan Pays 50 Per Cent

### Dividend on All Stock

A 50 per cent stock dividend, payable to all stockholders of the Jordan Motor Car Company, was declared at a recent meeting at the offices of the company in Cleveland. At the same time the capital of the company was increased to \$1,200,000.

Jordan now has orders on hand for four months' production. New additions to the plant and equipment will be made immediately to provide for increased production.

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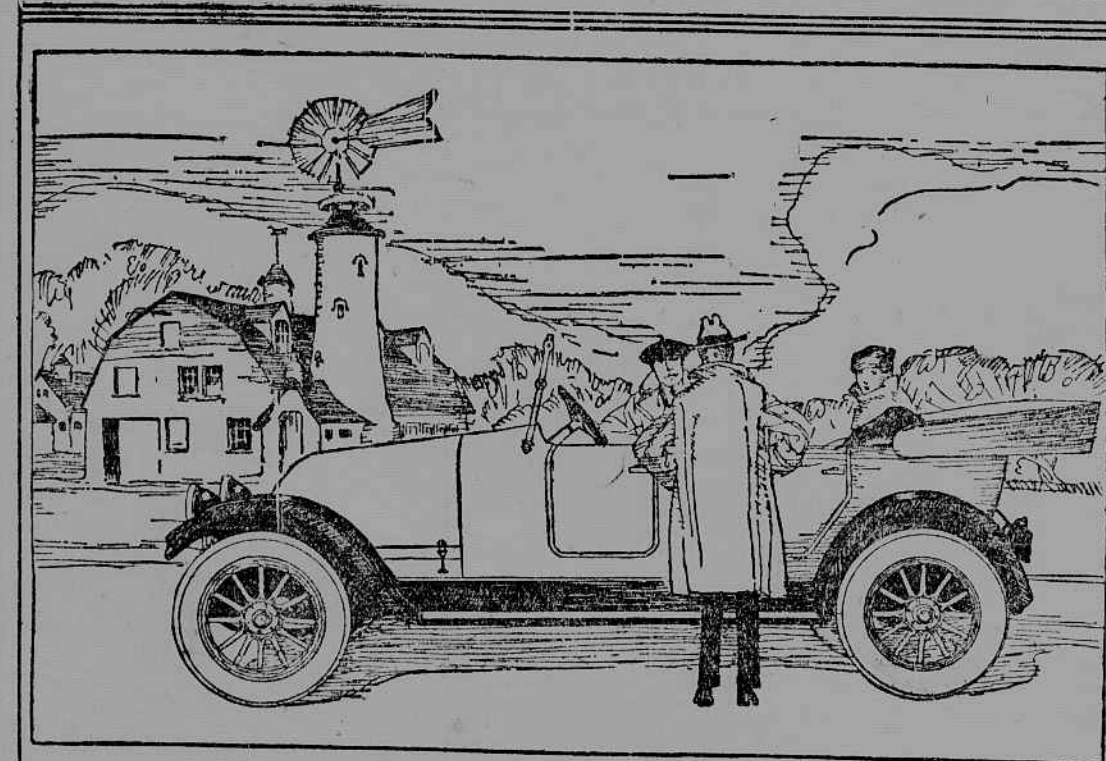
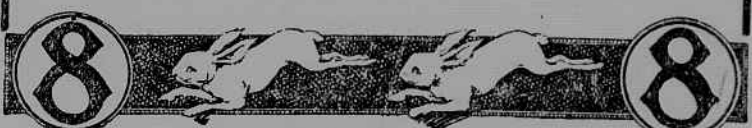
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Then, too, such a demonstration brings a fuller appreciation of Franklin economy—the consistent, publicly known delivery of

20 miles to the gallon of gasoline—instead of the usual 10.

10,000 miles to the set of tires—instead of the usual 5,000.

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## The Moon Victory Model

Graceful, convenient and in faultless taste, the Moon Victory Model has a wealth of individuality. It is a car that says "custom-made" in everything but price.

From its smooth-running Red Seal Continental engine to its sleek and polished instrument board, every detail of construction and finish conveys the idea of power, luxury and aristocratic comfort. The view here given shows the beauty of its long, symmetrical lines. Note the high Rolls-Royce style of radiator, the beveled lines of the body, and the smart crown

fenders. It is absolutely a post-war model embracing the very latest and newest styles in equipment and design.

It will more than satisfy your demand for value. Only standard units of proved reliability have a place in its make-up. A wonderful car, it is the logical result of fourteen years of factory effort to "Build the Best."

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